

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (New): A process for carrying out exothermic chemical equilibrium reactions in a fluidized-bed reactor, wherein there is a temperature distribution along the flow direction in the fluidized bed of the fluidized-bed reactor and the temperature difference between the lowest temperature and the highest temperature is at least 10 K and wherein the temperature within the fluidized bed decreases from an absolute temperature maximum along the flow direction to the surface of the fluidized bed.

Claim 11 (New): The process according to claim 1, wherein the temperature within the fluidized bed decreases from an absolute temperature maximum in the fluidized bed along the flow direction to the surface of the fluidized bed and to the gas distributor.

Claim 12 (New): The process according to claim 1, wherein the distance between the absolute temperature maximum and the gas distributor is smaller than the distance between the absolute temperature maximum and the surface of the fluidized bed.

Claim 13 (New): The process according to claim 1, wherein the temperature of the reaction gases fed to the fluidized-bed reactor is below the lowest temperature occurring in the fluidized bed.

Claim 14 (New): The process according to claim 1, wherein the temperature distribution is produced by heat transfer to at least one heat exchanger within the fluidized bed.

Claim 15 (New): The process according to claim 1, wherein the chemical reaction is the preparation of chlorine from hydrogen chloride and oxygen.

Claim 16 (New): The process according to claim 1, wherein the fluidized bed comprises a catalyst which comprises a metal component on an oxidic support.

Claim 17 (New): The process according to claim 7, wherein the catalyst comprises a ruthenium compound.

Claim 18 (New): A fluidized-bed reactor for carrying out the process according to claim 1 in a fluidized bed into which reaction gases are fed via a gas distributor, wherein at least one heat exchanger is located in the fluidized bed to control the temperature distribution within the fluidized bed and wherein the distance between the gas distributor and the nearest heat exchanger is at least 50 cm.